

Claims:

- 1 1. A system for manufacturing a hard disc drive suspension flexure comprising:
2 a first electrical trace to be coupled to a base element, wherein
3 said base element includes an insulative layer and a conductive layer, said insulative layer being
4 sandwiched between said first electrical trace and said conductive layer, and said conductive
5 layer including a recess opposite the electrical trace.
- 1 2. The system of claim 1, wherein said first electrical trace is selected from the group
2 consisting of copper, gold, nickel alloy, platinum, and tin.
- 1 3. The system of claim 1, wherein the insulative layer is polyimide.
- 1 4. The system of claim 1, wherein the conductive layer is stainless steel.
- 1 5. The system of claim 1, wherein said recess is created by an etching process.
- 1 6. The system of claim 5, wherein said etching process removes all of said conductive layer
2 directly opposite of the first electrical trace.
- 1 7. The system of claim 1, wherein said recess is to be filled with a first insulation material.
- 1 8. The system of claim 7, wherein said first insulation material is selected from the group
2 consisting of plastic, epoxy, and polyimide.

1 9. The system of claim 7, wherein said first insulation material is to be applied by a method
2 selected from the group consisting of plating, printing, air spraying, and vacuum lamination.

1 10. The system of claim 7, wherein said first insulation material is opposite a read/write
2 electrical trace and is 5 to 10 micro-meters(um) in thickness.

1 11. The system of claim 7, wherein said first insulation material is opposite a micro-actuator
2 electrical trace and is 10 to 20 micro-meters(um) in thickness.

1 12. The system of claim 1, further comprising a second electrical trace adjacent said first
2 electrical trace, wherein a layer of second insulation material is to be applied between said first
3 electrical trace and said second electrical trace.

1 13. The system of claim 12, wherein said second insulation material is selected from the
2 group consisting of plastic, epoxy, and polyimide.

1 14. The system of claim 12, wherein said second insulation material is to be applied by a
2 method selected from the group consisting of plating, printing, air spraying, and vacuum
3 lamination.

1 15. The system of claim 12, wherein said second insulation material is between a first and a
2 second read/write electrical trace and is 10 to 15 micro-meters(um) in width.

1 16. The system of claim 12, wherein said second insulation material is between a first and a
2 second micro-actuator electrical trace and is 15 to 25 micro-meters(um) in width.

1 17. A method for manufacturing a hard disc drive suspension flexure comprising:
2 coupling a first electrical trace to a base element, said base element including an
3 insulative layer and a conductive layer, and
4 sandwiching said insulative layer between said first electrical trace and said conductive
5 layer, said conductive layer including a recess opposite the electrical trace.

1 18. The method of claim 17, wherein said first electrical trace is selected from the group
2 consisting of copper, gold, nickel alloy, platinum, and tin.

1 19. The method of claim 17, wherein the insulative layer is polyimide.

1 20. The method of claim 17, wherein the conductive layer is stainless steel.

1 21. The method of claim 17, wherein said recess is created by an etching process.

1 22. The method of claim 21, wherein said etching process removes all of said conductive
2 layer directly opposite of the first electrical trace.

1 23. The method of claim 17, wherein said recess is to be filled with a first insulation material.

1 24. The method of claim 23, wherein said first insulation material is selected from the group
2 consisting of plastic, epoxy, and polyimide.

1 25. The method of claim 23, wherein said first insulation material is to be applied by a
2 method selected from the group consisting of plating, printing, air spraying, and vacuum
3 lamination.

1 26. The method of claim 23, wherein said first insulation material is opposite a read/write
2 electrical trace and is 5 to 10 micro-meters(um) in thickness.

1 27. The method of claim 23, wherein said first insulation material is opposite a micro-
2 actuator electrical trace and is 10 to 20 micro-meters(um) in thickness.

1 28. The method of claim 17, further comprising a second electrical trace adjacent said first
2 electrical trace, wherein a layer of second insulation material is to be applied between said first
3 electrical trace and said second electrical trace.

1 29. The method of claim 28, wherein said second insulation material is selected from the
2 group consisting of plastic, epoxy, and polyimide.

1 30. The method of claim 28, wherein said second insulation material is to be applied by a
2 method selected from the group consisting of plating, printing, air spraying, and vacuum
3 lamination.

1 31. The method of claim 28, wherein said second insulation material is between a first and a
2 second read/write electrical trace and is 10 to 15 micro-meters(um) in width.

1 32. The method of claim 28, wherein said second insulation material is between a first and a
2 second micro-actuator electrical trace and is 15 to 25 micro-meters(um) in width.